

REMARKS

By this Amendment, Applicant amends claims 1 and 3 and cancel claim 2, without any prejudice or disclaimer to the subject matter thereof. Applicant also adds claims 4-8 to address other aspects of the present invention. Upon entry of this Amendment, claims 1, 3-8 will be pending.

In the Office Action, the Examiner rejected claims 1-3 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Application Publication No. 2005/0039852 to Roche et al. (“Roche”) in view of either U.S. Patent No. 6,866,744 to Miya et al. (“Miya”) or U.S. Patent No. 5,948,983 to Gogol, Jr. et al. (“Gogol”).¹ Applicant respectfully traverses the Examiner’s rejections under § 103(a).

Regarding Claim Rejections under 35 U.S.C. § 103

Applicant respectfully traverses the Examiner’s rejection of claims 1-3 under 35 U.S.C. § 103(a) as unpatentable over Roche in view of Miya. In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim elements. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. Third, there must be a reasonable expectation of success. See M.P.E.P. § 2143.

Independent claim 1, as amended, recites a combination including, for example, “a resonant frequency sensor fabricated as a micro machine chip and disposed through

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

a wall of a processing chamber.” Roche fails to teach or suggest at least this element as recited in amended claim 1.

Roche merely mentioned that “[o]ne examples of a useful MEMs device is a CMOS-based resonant beam sensor.” Roche, para. [0067]. However, Roche’s mentioning of a CMOS-based resonant beam sensor does not constitute “a resonant frequency sensor fabricated as a micro machine chip and disposed through a wall of a processing chamber,” as recited in amended claim 1 (emphasis added).

Moreover, Roche explicitly states that “an array of spatially distributed sensor elements 42 are disposed on the semiconductor wafer 14 with multiple interconnects 44 for communication and/or power distribution from a central processor and wireless communication subsystem 46.” Roche, para. [0028], emphasis added. Such teaching of Roche is in contrary to “disposed through a wall of a processing chamber,” as recited in amended claim 1.

Miya fails to cure Roche’s deficiencies. Miya discloses a semiconductor processing apparatus where “the estimation/diagnosis means 41 analyzes the shift of the past history data stored in the database, and can estimate that the subsequent wet cleaning should be carried out after how many hours, or can estimate after how many hours constituent components inside the process chamber reach their service life.” Miya, column 11, lines 54-59. However, Miya fails to teach or suggest at least “a resonant frequency sensor fabricated as a micro machine chip and disposed through a wall of a processing chamber,” as recited in amended claim 1 (emphasis added).

Therefore, neither Roche nor Miya, taken alone or in any reasonable combination, teaches or suggests all elements of Applicant’s invention as recited in

amended claim 1. A *prima facie* case of obviousness has not been established.

Accordingly, Applicant respectfully requests withdrawal of the Section 103 rejection of claim 1. Because claim 3 depends from claim 1, Applicant also requests withdrawal of the Section 103 rejection of claim 3 for at least the same reasons stated above.

Further, because claim 2 has been canceled, the Section 103 rejection of claim 2 is moot.

Applicant also respectfully traverses the Examiner's rejection of claims 1-3 under 35 U.S.C. § 103(a) as unpatentable over Roche in view of Gogol. Gogol also fails to cure Roche's deficiencies on teaching "a resonant frequency sensor fabricated as a micro machine chip and disposed through a wall of a processing chamber," as recited in amended claim 1.

Gogol discloses "[a] wall deposit monitoring system for measuring variation in wall deposit thickness in an etch or deposition chamber having a contained reactive environment [which] includes at least one quartz or other piezoelectric crystal sensor installed through a wall of the chamber using a feed-through member." Gogol, abstract. However, Gogol's teaching of at least one crystal sensor does not constitute "a resonant frequency sensor fabricated as a micro machine chip and disposed through a wall of a processing chamber," as recited in amended claim 1 (emphasis added).

Therefore, neither Roche nor Gogol, taken alone or in any reasonable combination, teaches or suggests all elements of Applicant's invention as recited in amended claim 1. A *prima facie* case of obviousness has not been established. Accordingly, Applicant respectfully requests withdrawal of the Section 103 rejection of claim 1. Because claim 3 depends from claim 1, Applicant also requests withdrawal of

the Section 103 rejection of claim 3 for at least the same reasons stated above. Further, because claim 2 has been canceled, the Section 103 rejection of claim 2 is moot.

Regarding Newly Added Claims

Applicant has added claims 4-8 to address other aspects of the present invention. Support for claims 4-8 may be found at, for example, pages 3 and 4 of the specification. Because claims 4-8 depend from claim 1, either directly or indirectly, claims 4-8 are also allowable for at least as being dependent upon an allowable base claim.

Conclusion

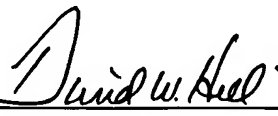
In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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